



334406

**LETTER REPORT
FOR
CLARK OIL REFINERY
BLUE ISLAND, COOK COUNTY, ILLINOIS
TDD: S05-9702-006
PAN: 7F0601PIXX**

74

JUNE 12, 1997

Prepared for:

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency and Enforcement Response Branch
77 West Jackson Boulevard
Chicago, Illinois, 60604**



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

June 12, 1997

Ms. Gail Nabasny
START Project Officer
United States Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604

Re: Clark Oil Refinery
Blue Island, Cook County, Illinois
TDD: S05-9702-006
PAN: 7F0601PIXX

Dear Ms. Nabasny:

The United States Environmental Protection Agency (U.S. EPA) tasked the Superfund Technical Assessment and Response Team (START) of Ecology and Environment, Inc., (E & E), under Technical Direction Document (TDD) S05-9702-006, to perform a Spill Prevention Control and Countermeasure (SPCC) plan inspection at the Clark Oil Refinery (Clark), located in Blue Island, Cook County, Illinois.

The Clark Oil Refinery is located on a large property divided by 131st Street and Kedzie Avenue in Blue Island, Illinois. On the property, there is a main office building, a main refinery area, the Northwest tank farm, the 40-, 60-, 70- Series tank farm, the Southwest property, and the 5-Acre property. The Calumet-Sag Channel is located directly adjacent to the facility, on the southwest side.

On March 6, 1997, START members Karen Rydzewski and Stephanie Wenning, accompanied by U.S. EPA On-Scene Coordinator (OSC) Len Zintak, performed an SPCC inspection at the Clark Oil facility. The inspection was completed on March 7, 1997. The SPCC inspection was part of a multimedia inspection being performed at Clark under the direction of the National Enforcement Investigations Center (NEIC). Also present at Clark during the SPCC inspection were Brian McKeown and Margo Dusenbury from NEIC.

The results of the SPCC inspection are detailed in the SPCC inspection report (Appendix A).

The representatives from NEIC were investigating areas of Clark not directly related to the SPCC inspection, and requested assistance from OSC Zintak and START. Mr. McKeown directed OSC Zintak's attention to a problem area within the facilities drainage system. OSC Zintak and START investigated one of the drainage sumps, Junction Box 38, located near the main refinery area. On March 6, 1997, START performed air monitoring with the Combustible Gas Indicator (CGI) instrument around Junction Box 38. When START detected elevated Lower Explosive Limit (LEL) levels in Junction Box 38, OSC Zintak requested that START collect sediment and water samples from the drain the following day. On March 7, 1997, after completion of the SPCC inspection, air monitoring was again performed by START. The LEL levels detected were higher than the previous

day. At this time, it was determined that samples would be collected from Junction Box 38. START member Rydzewski and Margo Dusenbury of NEIC collected approximately six water and sediment samples from Junction Box 38. These samples were split with a Clark Oil representative. After the completion of sampling, START packaged the samples for shipment to the NEIC laboratory in Denver, Colorado.

This letter report summarizes the work performed by START and satisfies the requirements of this TDD. Should you have any questions or comments, please contact us.

Sincerely,



Karen Rydzewski
START Project Manager



for Tom Kouris
START Program Manager

Attachment

cc: Len Zintak, U.S. EPA On-Scene Coordinator
Site File S05-9702-006

Attachment A

SPCC Inspection Report

A. SPCC INSPECTION REPORT
 (To be completed if SPCC Regulation is applicable to Facility - See 40 CFR 112.1)

1a. NAME OF FACILITY Clark Oil - Blue Island Refinery		1b. DATE FACILITY BECAME OPERATIONAL 1945-1946		
1c. TYPE OF FACILITY Oil Refinery		1d. SIC CODE 2911		
1e. FACILITY LOCATION 131st Street and Kedzie Avenue		1f. COUNTY Cook	1g. LATITUDE & LONGITUDE N 41 39.236 W 87 41.936	
2a. NAME OF OWNER AND/OR OPERATOR RESPONSIBLE FOR FACILITY Clark Refining and Marketing, Inc. - Ron Snook, Operator			2b. TELEPHONE NUMBER (708)385-5000	
2c. MAILING ADDRESS 131st Street and Kedzie Avenue Blue Island, IL 60406				
3a. TYPES OF OIL STORED AND CAPACITY OF ABOVE GROUND AND BURIED STORAGE				
TANK NUMBER	CONTENTS	TYPE	CAPACITY (gallons)	DIMENSIONS diameter x height (feet)
6	Sour Water	Steel, vertically oriented AST	210,882	Not Available
16	Asphalt	Steel, vertically oriented AST	215,880	Not Available
17	Diesel Oil	Steel, vertically oriented AST	215,208	Not Available
18	Diesel Oil	Steel, vertically oriented AST	215,880	Not Available
35	Burner Fuel Oil	Steel, vertically oriented AST	439,992	Not Available
36	1% #6 Fuel Oil	Steel, vertically oriented AST	777,714	Not Available
37	FCC Charge	Steel, vertically oriented AST	787,038	Not Available
38	Asphalt	Steel, vertically oriented AST	784,728	Not Available
40	Naphtha	Steel, vertically oriented AST	2,268,000	Not Available
41	Naphtha	Steel, vertically oriented AST	2,268,000	Not Available
42	Unified Naphtha	Steel, vertically oriented AST	2,268,000	Not Available
43	Isomax Charge	Steel, vertically oriented AST	1,260,000	Not Available
44	Interface	Steel, vertically oriented AST	1,260,000	Not Available

A. SPCC INSPECTION REPORT
(To be completed if SPCC Regulation is applicable to Facility - See 40 CFR 112.1)

45	No Lead Regular	Steel, vertically oriented AST	1,260,000	Not Available
46	No Lead Regular	Steel, vertically oriented AST	2,817,822	Not Available
47	No Lead Premium	Steel, vertically oriented AST	2,822,148	Not Available
51	Asphalt	Steel, vertically oriented AST	3,385,830	Not Available
52	Asphalt	Steel, vertically oriented AST	3,383,604	Not Available
53	Clarified Oil	Steel, vertically oriented AST	3,349,878	Not Available
54	FCC Charge	Steel, vertically oriented AST	3,349,836	Not Available
55	No. 2 Fuel Oil	Steel, vertically oriented AST	4,010,328	Not Available
56	No. 2 Fuel Oil	Steel, vertically oriented AST	4,017,174	Not Available
61	No. 2 Fuel Oil	Steel, vertically oriented AST	216,258	Not Available
62	No. 2 Fuel Oil	Steel, vertically oriented AST	215,880	Not Available
63	Material to Rerun	Steel, vertically oriented AST	216,342	Not Available
65	Material to Rerun	Steel, vertically oriented AST	213,486	Not Available
66	Material to Rerun	Steel, vertically oriented AST	215,880	Not Available
71	Benzene	Steel, vertically oriented AST	840,000	Not Available
72	Benzene	Steel, vertically oriented AST	840,000	Not Available
73	Natural Gasoline	Steel, vertically oriented AST	630,000	Not Available
74	Natural Gasoline	Steel, vertically oriented AST	630,000	Not Available
75	Natural Gasoline	Steel, vertically oriented AST	630,000	Not Available
76	Natural Gasoline	Steel, vertically oriented AST	630,000	Not Available
77	No. 2 Fuel Oil	Steel, vertically oriented AST	630,000	Not Available
78	No. 1 Range Oil	Steel, vertically oriented AST	630,000	Not Available
81	Gasoline Blending	Steel, vertically oriented AST	840,000	Not Available
82	Gasoline Blending	Steel, vertically oriented AST	840,000	Not Available
83	Gasoline Blending	Steel, vertically oriented AST	840,000	Not Available

A. SPCC INSPECTION REPORT
(To be completed if SPCC Regulation is applicable to Facility - See 40 CFR 112.1)

84	Gasoline Blending	Steel, vertically oriented AST	840,000	Not Available
85	LSR Gasoline	Steel, vertically oriented AST	840,000	Not Available
86	LSR Gasoline	Steel, vertically oriented AST	840,000	Not Available
322	Material to Rerun	Steel, vertically oriented AST	126,000	Not Available
323	Material to Rerun	Steel, vertically oriented AST	126,000	Not Available
801	Crude Oil	Steel, vertically oriented AST	5,019,000	Not Available
802	Crude Oil	Steel, vertically oriented AST	5,019,000	Not Available
803	Sour Crude Oil	Steel, vertically oriented AST	5,019,000	Not Available
804	FCC Charge	Steel, vertically oriented AST	5,019,000	Not Available
806	No Lead Regular	Steel, vertically oriented AST	5,019,000	Not Available
807	No Lead Regular	Steel, vertically oriented AST	5,019,000	Not Available
808	No Lead Regular	Steel, vertically oriented AST	5,019,000	Not Available
Power Transformers	Oil/Askarel/PCB Oil	(44) Transformers/ Oil Circuit Breakers	25,082	Unknown
Drum Storage	Oil/Hydraulic Fluids	Approximately (100) 55 gallon drums	Approximately 5,500	Not Available

3b. TOTAL NUMBER OF TANKS AND TOTAL OIL STORAGE CAPACITIES

TOTAL # OF ABOVE GROUND TANKS = 50 TOTAL CAPACITY OF ABOVE GROUND TANKS IN GALs = 88,330,788
TOTAL # OF UNDERGROUND TANKS = 0 TOTAL CAPACITY OF UNDERGROUND TANKS IN GALs = 0
TOTAL # OF SMALL CONTAINERS = Approx. 144 TOTAL CAPACITY OF SMALL CONTAINERS IN GALs = Approx. 30,582
(INCLUDES DRUMS, CONTAINERS AND TRANSFORMERS)

4. IS A CERTIFIED SPCC PLAN AVAILABLE FOR INSPECTION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF "NO" : <input type="checkbox"/> A NON-CERTIFIED PLAN IS AVAILABLE <input type="checkbox"/> NO PLAN IS AVAILABLE		5. DATE OF INSPECTION March 6 & 7, 1997
6. NAME AND REGISTRATION NUMBER OF CERTIFYING ENGINEER <input type="checkbox"/> NOT APPLICABLE James R. Bulla #62-36726		7. DATE SPCC PLAN WAS CERTIFIED <input type="checkbox"/> NOT DATED SEPT. 9, 1994
8a. IS THE SPCC PLAN FULLY IMPLEMENTED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NO PLAN AVAILABLE		8b. DATE SPCC PLAN WAS IMPLEMENTED

A. SPCC INSPECTION REPORT
(To be completed if SPCC Regulation is applicable to Facility - See 40 CFR 112.1)

9. NAME OF WATER BODY THAT POTENTIAL SPILL COULD ENTER: OR IF UNNAMED TRIBUTARY, THEN FIRST WATERBODY DOWNSTREAM

The Calumet-Sag Channel is located directly adjacent to the facility on the SW side. Wireton Creek is located adjacent to the facility to the North.

10. COMMENTS

STARTm's S.Wenning and K.Rydzewski, along with Len Zintak of the US EPA, performed the SPCC inspection as part of a multimedia inspection at the Clark Oil Refinery. Inspection team members met at the facility at approximately 8:00am on March 6 and were required to attend a half-hour safety briefing. After the safety briefing, the inspection team met with Jerry Barnhill, David Beener, George Moisoff, Bill Irwin, Tom Kidwell and Ron Snook, all representatives of Clark Oil. Also present at the meeting was Brian McKeown and Margo Dusenbury representing the National Enforcement Investigations Center (NEIC) of the US EPA. During this meeting, STARTm K.Rydzewski distributed and briefly discussed the information packet with Clark Oil representatives and then the inspection team outlined what areas of the refinery they were interested in inspecting. At approximately 9:30am, the inspection team along with three representatives from Clark Oil began the inspection. The team first inspected the NW tank farm area, then inspected the SW property tank farm and the 40-, 60-, 70- series tanks. Next, the inspection team examined the storage tanks in the process area and the loading/unloading rack areas. The drum storage warehouse was the final area inspected on March 6. At approximately 9:00am on March 7, 1997, the inspection team, again accompanied by Clark Oil representatives, examined the refinery process area, inspecting the rail car loading rack, as well as the transformers and drums disbursed throughout the process area. The inspection was completed on March 7, 1997 at approximately 12:30pm.

The facility consists of an oil refinery with bulk oil storage areas located on a large property which is divided by 131st Street and Kedzie Avenue. The facility is divided into 5 sections for identification purposes. These sections are the main refinery area, the Southwest property, the 40-, 60-, 70-Series tank farm, the 5-acre property and the Northwest property. The main refinery area consists of the process area, ten storage tanks, the rail car loading rack and various drums and transformers dispersed throughout the area. Also present in the main refinery area is the Heavy Oil Truck Loading rack. The Southwest property consists of six bulk storage tanks and the 40-, 60-, 70- series tank farm has twenty-one bulk storage tanks as well as the Light Oil Truck Loading Rack. The 5-acre property holds six bulk storage tanks and the Northwest property has seven bulk storage tanks. Also present at the facility is a drum storage warehouse, the Oily Water Treatment Plant (OWTP), and several transformers which are scattered throughout the facility.

11a. SPCC NO.

11b. CASE NO.

11c. NPDES NO.
[] NOT APPLICABLE
ILR000118

12a. INSPECTOR (sign)

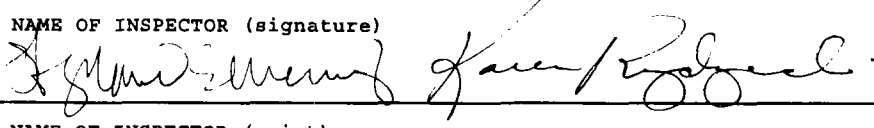
12b. DATE

12c. INSPECTOR (print)

Stephanie E. Wenning, Karen Rydzewski, Ecology and Environment, Inc., Chicago

6/11/97

B. SPCC INSPECTION SUMMARY SHEET

SPCC NO.	CASE NO.	NPDES NO. ILR000118
NAME OF INSPECTOR (signature) 		DATE OF DOCUMENTATION REPORT
NAME OF INSPECTOR (print) Stephanie E. Wenning, Karen Rydzewski, Ecology and Environment, Inc., Chicago		DATE OF INSPECTION March 6 & 7, 1997

1. FACILITY

a.	FACILITY NAME Clark Oil Refinery - Blue Island		
FACILITY LOCATION 131st Street and Kedzie Avenue			
b.	COMPANY Clark Refining and Marketing, Inc.		
ADDRESS 13100 S. Kedzie Avenue			TELEPHONE 708-385-5000
CITY Blue Island		STATE IL	ZIP CODE 60406
c.	PARENT CORPORATION Clark Refining and Marketing, Inc.		
ADDRESS 8182 Maryland Avenue			
CITY St. Louis		STATE MO	ZIP CODE 63105
d.	WATER BODY PROTECTED Calumet-Sag Channel is located directly adjacent to the facility on the SW side. Wireton Creek is located adjacent to the facility to the North.		

2. PURPOSE

INITIATION:	<input type="checkbox"/> ROUTINE SURVEILLANCE	<input type="checkbox"/> COAST GUARD INFORMATION
	<input type="checkbox"/> SPILL REPORT	<input type="checkbox"/> CITIZEN COMPLAINT
		<input checked="" type="checkbox"/> OTHER (specify) -Multimedia inspection
TYPE:	<input checked="" type="checkbox"/> PLAN PREPARATION	<input checked="" type="checkbox"/> PLAN IMPLEMENTATION
	<input type="checkbox"/> FOLLOW-UP	<input type="checkbox"/> PLAN AMENDMENT

3. INSPECTION

INDIVIDUAL CONTACTED N/A	TITLE
INDIVIDUAL CONTACTED	TITLE

B. SPCC INSPECTION SUMMARY SHEET

NOTIFICATION

The inspection was arranged through Mr. Brian McKeown, representing NEIC of the US EPA. NEIC began an unannounced multimedia inspection on March 3, 1997. Mr. McKeown informed Clark Oil representatives that an SPCC inspection would be performed on March 6 & 7, 1997 at the Clark Oil facility.

4. FINDINGS

FACILITY IN APPARENT COMPLIANCE WITH SPCC REQUIREMENTS:

- ☐ YES
- ☐ HAVE ADEQUATE PLAN
 - ☐ NOT SUBJECT TO REGULATIONS
 - ☐ INSUFFICIENT STORAGE
 - ☐ NO REASONABLE SPILL EXPECTATION
 - ☐ PLAN FULLY IMPLEMENTED
 - ☐ NEW FACILITY OPERATIONAL FOR LESS THAN 6 MONTHS

☒ NO

- ☐ NO PLAN
- ☐ PLAN NOT PROPERLY CERTIFIED
- ☐ PLAN DOES NOT HAVE MANAGEMENT APPROVAL
- ☐ PLAN NOT MAINTAINED AT FACILITY MANNED 8 HRS/DAY
- ☒ INADEQUATE PLAN (detailed SPCC plan review attached)
- ☒ PLAN NOT FULLY IMPLEMENTED
- ☐ PLAN NOT REVIEWED WITHIN 3 YEARS

☐ OTHER

5. ATTACHMENTS

(None required if facility is in apparent compliance)

	NONE	ATTACHED	ALREADY ON FILE
*Detailed Observations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Photographs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Slides	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Map	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Field Drawings	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
*Comments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Telephone Conversations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*SPCC Plan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

*ALL REQUIRED IF FACILITY IS NOT IN APPARENT COMPLIANCE. If photos not permitted, check "NONE" and explain. Add "SPCC Plan to List of Attachments when appropriate.

C. DETAILED SPCC DOCUMENTATION

FACILITY	DATE OF INSPECTION
Clark Oil Refinery - Blue Island	March 6 & 7, 1997

1. FACILITY DESCRIPTION

1a. TYPE OF BUSINESS/OPERATION

Oil Refinery

1b. FACILITY OIL STORAGE

TANK NUMBER	CONTENTS	TYPE	CAPACITY (gallons)	DIMENSIONS diameter x height (feet)
6	Sour Water	Steel, vertically oriented AST	210,882	Not Available
16	Asphalt	Steel, vertically oriented AST	215,880	Not Available
17	Diesel Oil	Steel, vertically oriented AST	215,208	Not Available
18	Diesel Oil	Steel, vertically oriented AST	215,880	Not Available
35	Burner Fuel Oil	Steel, vertically oriented AST	439,992	Not Available
36	1 $\frac{1}{2}$ #6 Fuel Oil	Steel, vertically oriented AST	777,714	Not Available
37	FCC Charge	Steel, vertically oriented AST	787,038	Not Available
38	Asphalt	Steel, vertically oriented AST	784,728	Not Available
40	Naphtha	Steel, vertically oriented AST	2,268,000	Not Available
41	Naphtha	Steel, vertically oriented AST	2,268,000	Not Available
42	Unified Naphtha	Steel, vertically oriented AST	2,268,000	Not Available
43	Isomax Charge	Steel, vertically oriented AST	1,260,000	Not Available
44	Interface	Steel, vertically oriented AST	1,260,000	Not Available
45	No Lead Regular	Steel, vertically oriented AST	1,260,000	Not Available
46	No Lead Regular	Steel, vertically oriented AST	2,817,822	Not Available
47	No Lead Premium	Steel, vertically oriented AST	2,822,148	Not Available
51	Asphalt	Steel, vertically oriented AST	3,385,830	Not Available
52	Asphalt	Steel, vertically oriented AST	3,383,604	Not Available
53	Clarified Oil	Steel, vertically oriented AST	3,349,878	Not Available
54	FCC Charge	Steel, vertically oriented AST	3,349,836	Not Available

C. DETAILED SPCC DOCUMENTATION

55	No. 2 Fuel Oil	Steel, vertically oriented AST	4,010,328	Not Available
56	No. 2 Fuel Oil	Steel, vertically oriented AST	4,017,174	Not Available
61	No. 2 Fuel Oil	Steel, vertically oriented AST	216,258	Not Available
62	No. 2 Fuel Oil	Steel, vertically oriented AST	215,880	Not Available
63	Material to Rerun	Steel, vertically oriented AST	216,342	Not Available
65	Material to Rerun	Steel, vertically oriented AST	213,486	Not Available
66	Material to Rerun	Steel, vertically oriented AST	215,880	Not Available
71	Benzene	Steel, vertically oriented AST	840,000	Not Available
72	Benzene	Steel, vertically oriented AST	840,000	Not Available
73	Natural Gasoline	Steel, vertically oriented AST	630,000	Not Available
74	Natural Gasoline	Steel, vertically oriented AST	630,000	Not Available
75	Natural Gasoline	Steel, vertically oriented AST	630,000	Not Available
76	Natural Gasoline	Steel, vertically oriented AST	630,000	Not Available
77	No. 2 Fuel Oil	Steel, vertically oriented AST	630,000	Not Available
78	No. 1 Range Oil	Steel, vertically oriented AST	630,000	Not Available
81	Gasoline Blending	Steel, vertically oriented AST	840,000	Not Available
82	Gasoline Blending	Steel, vertically oriented AST	840,000	Not Available
83	Gasoline Blending	Steel, vertically oriented AST	840,000	Not Available
84	Gasoline Blending	Steel, vertically oriented AST	840,000	Not Available
85	LSR Gasoline	Steel, vertically oriented AST	840,000	Not Available
86	LSR Gasoline	Steel, vertically oriented AST	840,000	Not Available
322	Material to Rerun	Steel, vertically oriented AST	126,000	Not Available
323	Material to Rerun	Steel, vertically oriented AST	126,000	Not Available
801	Crude Oil	Steel, vertically oriented AST	5,019,000	Not Available
802	Crude Oil	Steel, vertically oriented AST	5,019,000	Not Available

C. DETAILED SPCC DOCUMENTATION

803	Sour Crude Oil	Steel, vertically oriented AST	5,019,000	Not Available
804	FCC Charge	Steel, vertically oriented AST	5,019,000	Not Available
806	No Lead Regular	Steel, vertically oriented AST	5,019,000	Not Available
807	No Lead Regular	Steel, vertically oriented AST	5,019,000	Not Available
808	No Lead Regular	Steel, vertically oriented AST	5,019,000	Not Available
Power Transformers	Oil/Askarel/PCB Oil	(44) Transformers/Oil Circuit Breakers	25,082	Unknown
Drum Storage	Oil/Hydraulic Fluids	Approximately (100) 55 gallon drums	Approximately 5,500	Not Available

1c. TOTAL NUMBER OF TANKS AND TOTAL OIL STORAGE CAPACITIES

TOTAL # OF ABOVE GROUND TANKS = 50 TOTAL CAPACITY OF ABOVE GROUND TANKS IN GALs =88,330,788

TOTAL # OF UNDERGROUND TANKS = 0 TOTAL CAPACITY OF UNDERGROUND TANKS IN GALs = 0

TOTAL # OF SMALL CONTAINERS =Approx. 144 TOTAL CAPACITY OF SMALL CONTAINERS IN GALs =Approx. 30,582

(INCLUDES DRUMS, CCNTAINERS AND TRANSFORMERS)

C. DETAILED SPCC DOCUMENTATION

1d. PREVENTION MEASURES PROVIDED

All bulk storage tanks are contained within earthen dikes. Eighteen of these dikes are identified as having inadequate containment in the SPCC plan. These tanks are 6, 16, 17, 18, 36, 40, 41, 42, 51, 52, 55, 71, 72, 77, 78, 322, 323, 801. Of these eighteen tanks, tanks 17, 40, 55, and 801 were inspected and the dikes were measured along with the dike areas of tanks 35, 808, 45, and 56.

All aboveground tanks are inspected following API recommendations. Tanks have an electronic level gauge system with high and high-high level audible alarms or are equipped with regularly monitored and tested side visual gauges.

Drainage for most of the facility is based upon the Oily Water Treatment Plant (OWTP) and the six foot diameter storm sewer that runs through the majority of the facility and discharges into the Calumet-Sag Channel. In all areas of the refinery, storm water that accumulates in the dike areas is inspected for oil contamination before draining. Records of these inspections are maintained and were available to the inspection team. All of the dike areas contained manual drain valves. The containment areas for all of the storage tanks in the Main Refinery area, with the exception of Tank 35 containment, drain to a series of sumps, including Junction Box 38, that pump to Tank 59 and then to the OWTP for treatment. During periods of heavy rainfall, the capacity of the under/over weir of Junction Box 38 is inadequate and water is then discharged directly to Outfall 1B. The water that accumulates in the Tank 35 containment area must be removed by vacuum truck. In the 40-, 60-, 70- Series tank farm and the Southwest property, the dikes drain to the six foot sewer which discharges directly to the permitted outfall, Outfall 1B. Outfall 1B is checked every two hours by tank farm personnel and the results are reported to the Refinery Environmental Department. The dikes in the 5-acre property are drained into the Homan Avenue sewer and pumped into the containment area for Tank 56, which is located in the Southwest property. The Northwest tank farm drains into the 27 inch diameter sewer and discharges through Outfall 2B into Wireton Creek. Wireton Creek is located to the North of the Clark Oil property and eventually discharges into the Calumet-Sag Channel.

The OWTP consists of a two-cell API oil/water separator, and a Sedifloater dissolved air flotation (DAF) unit. Water is fed from Tank 59 into the API separator by two pumps. From the API separator, water flows into the Sedifloater. In the Sedifloater, water is recycled to an aerator tank where air is dissolved into the water. The aerated water is returned to the Sedifloater with new water from the API separator and the air adsorbs to the oil particles, causing them to float to the top. Floating oil is skimmed to a sump and pumped to a 4,000 gallon settling tank. The water is pumped off the bottom of the settling tank and the oil is pumped to the 60- series tanks for rework in the refinery. Treated water is discharged to the Metropolitan Water Reclamation District (MWRD) sanitary sewer.

When not in use, transfer pump valves are closed as well as valves on piping used for filling tanks. Water draw off valves and other ports that could permit direct outward flow of a tank's contents are securely closed when not in use and verified to be closed during daily operations. Terminal piping connections will be capped or blank-flanged when taken out-of-service.

The two truck loading racks are equipped with preset meters that send signals to automatically shut off the product transfer. The surface beneath the loading racks are sloped so spills will flow toward trench drains located at the front and rear of the loading stations. The trench drains for the Light Oil Truck Loading rack drain to a process sump which pumps to Tank 59. The trench drains for the Heavy Oil Loading Rack flow to an isolated sump from which liquids can be removed by vacuum truck. Prior to filling, the bottom drains of all vehicles are inspected for leakage. Drivers are instructed not to depart until the Loader has told them that all lines have been disconnected and the truck is not leaking.

Periodic training is conducted by the Refinery Environmental Manager for all personnel within 1 year of employment and annually thereafter. Records of these training sessions were requested.

The refinery is fully fenced, with the exception of a portion of the Southwest Property adjacent to the Calumet Sag Channel. Two security guards are present at the refinery 24 hours a day, one at the guard house in the Main Refinery area and another that roams the facility. Lighting is sufficient to discover oil spills at night and deter vandalism. Surveillance cameras are located throughout the refinery area and are constantly monitored.

C. DETAILED SPCC DOCUMENTATION

1e. APPEARANCE OF FACILITY (housekeeping)

The general housekeeping of the facility was poor. A few of the tanks examined at the facility showed oil stains, some of the aboveground piping was supported by railroad ties or rusty containers. One of the tank valves was clearly leaking oil. Much of the dike areas were filled with drainage water that had been pumped or drained into the secondary containment areas making it impossible to visualize the bottom of the tanks or the dike floor. The truck loading/unloading rack areas appeared in good condition.

1f. PAST SPILL HISTORY

According to the SPCC plan, twenty-three spills have occurred during the time period from 8/94 to 4/96. These spills are detailed in Table 1-1 of the SPCC plan.

C. DETAILED SPCC DOCUMENTATION

2. RECEIVING WATER (should spill occur)

2a. NAME AND/OR DESCRIPTION

Calumet-Sag Channel and Wireton Creek

- ☒ Perennial ☐ Intermittent
- ☒ Water present at time of inspection
- ☒ Inspector traced discharge to receiving water
- ☐ Inspector traced apparent drainage path to receiving water
- ☐ Receiving water identified by company representative
- ☐ Receiving water identified from topo map
- ☐ Receiving water identified by other means (specify):

2b. PROBABLE FLOW PATH TO RECEIVING WATER

Six foot storm sewer drain that runs through the facility discharges directly to a permitted outfall, Outfall 1B, and into the Calumet-Sag Channel. The 27 inch sewer that is located on the Northwest end of the property discharges through Outfall 2B into Wireton Creek. Wireton Creek discharges downstream into the Calumet-Sag Channel. In addition, overflow from inadequate containment areas for Tanks 55 and 56 would have surface run-off to Calumet-Sag Channel and Tanks 803, 804 and 808 would have surface run-off to Wireton Creek.

2c. HOURS FACILITY IS MANNED

Two security guards are present at the refinery 24 hours a day, 7 days a week. Surveillance cameras are located throughout the facility and are constantly monitored.

3. COMMENTS

The Clark personnel that accompanied the inspection team were unable to answer the majority of questions asked by inspection team members. Therefore, a written information request was sent to Clark. No response has yet been received. A copy of these questions is attached.

Some of the observations made while at the facility include a lack of containment for the drum storage area, located in close proximity to the Calumet-Sag Channel. The drums are stored in a warehouse with an open door and no containment measures for the door. Run-off from this area could easily reach the Calumet-Sag Channel. Also identified were several skid tanks in the Main Refinery area which had no secondary containment measures present. These tanks were located in close proximity to a storm sewer, which flows into the 6 foot sewer and discharges to the Calumet-Sag Channel. Another observation made was the routine practice of pumping water accumulated from various containment areas into the containment area for Tank 56, which is already inadequate. As a result, a crater-like indentation in the containment area for Tank 56 was observed. Also, no warning signs were observed at the loading rack areas as stated in the SPCC plan.

4. SPCC PLAN REVIEW

See Attachment A form

5. SPCC AMENDMENT RECOMMENDATIONS (amendment inspections only)



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1130

LOCATION: Blue Island, IL

DIRECTION: Northeast

PHOTOGRAPHER: L. Zintak

SUBJECT: Tank 808 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1131

LOCATION: Blue Island, IL

DIRECTION: Southeast

PHOTOGRAPHER: L. Zintak

SUBJECT: Tank 808 containment area.



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Tank 801 containment area.

DATE: March 6, 1997
DIRECTION: South

TIME: 1152
PHOTOGRAPHER: L. Zintak



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Tank 801 containment area.

DATE: March 6, 1997
DIRECTION: West

TIME: 1152
PHOTOGRAPHER: L. Zintak



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Leaking valve in Tank 801 containment area.

DATE: March 6, 1997
DIRECTION: East

TIME: 1155
PHOTOGRAPHER: L. Zintak



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Tank 55 containment area.

DATE: March 6, 1997
DIRECTION: North

TIME: 1214
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Tank 55 containment area.

DATE: March 6, 1997
DIRECTION: South

TIME: 1218
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Tank 56 containment area.

DATE: March 6, 1997
DIRECTION: North

TIME: 1220
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1221

LOCATION: Blue Island, IL

DIRECTION: Northwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Tank 56 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1225

LOCATION: Blue Island, IL

DIRECTION: South

PHOTOGRAPHER: S. Wenning

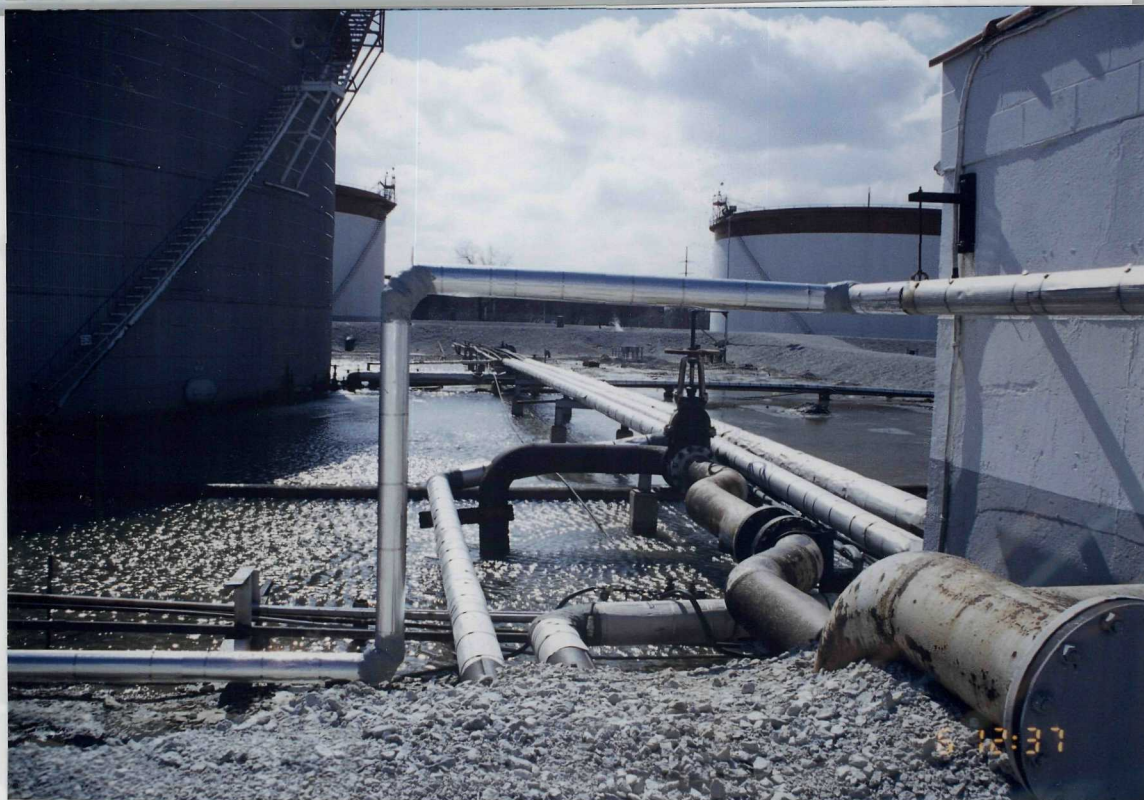
SUBJECT: Tank 56 containment area.



SITE: Clark Oil Refinery **DATE:** March 6, 1997 **TIME:** 1231
LOCATION: Blue Island, IL **DIRECTION:** Southwest **PHOTOGRAPHER:** S. Wenning
SUBJECT: Crater in Tank 55 containment from pumping water in containment area.



SITE: Clark Oil Refinery **DATE:** March 6, 1997 **TIME:** 1231
LOCATION: Blue Island, IL **DIRECTION:** South **PHOTOGRAPHER:** S. Wenning
SUBJECT: Contamination in Tank 55 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

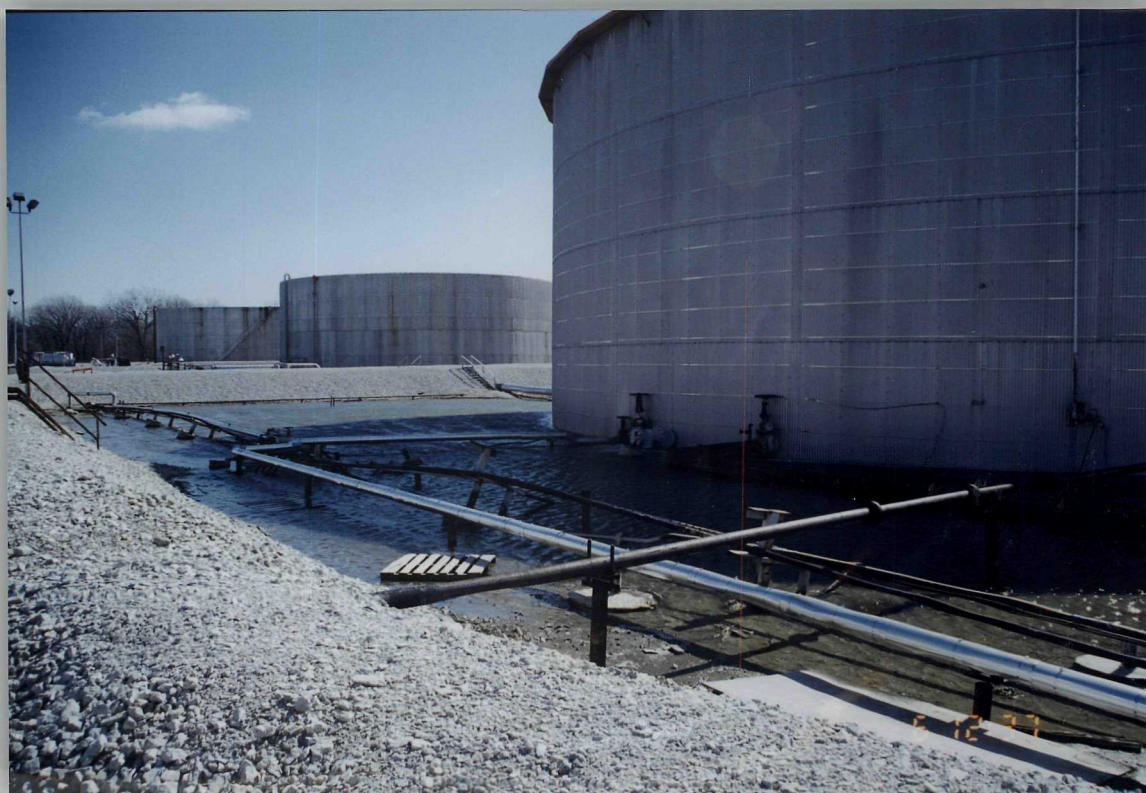
TIME: 1237

LOCATION: Blue Island, IL

DIRECTION: South

PHOTOGRAPHER: L. Zintak

SUBJECT: Water accumulated in containment area of Tank 53.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1237

LOCATION: Blue Island, IL

DIRECTION: Southwest

PHOTOGRAPHER: L. Zintak

SUBJECT: Water accumulated in containment area of Tank 53.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1242

LOCATION: Blue Island, IL

DIRECTION: Northwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Tank 45 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1243

LOCATION: Blue Island, IL

DIRECTION: Southwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Pipes in containment area of Tank 45.



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Pipes in containment area of Tank 42.

DATE: March 6, 1997
DIRECTION: North

TIME: 1247
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Water accumulated in containment area of Tank 35.

DATE: March 6, 1997
DIRECTION: Southeast

TIME: 1553
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery

DATE: March 6, 1997

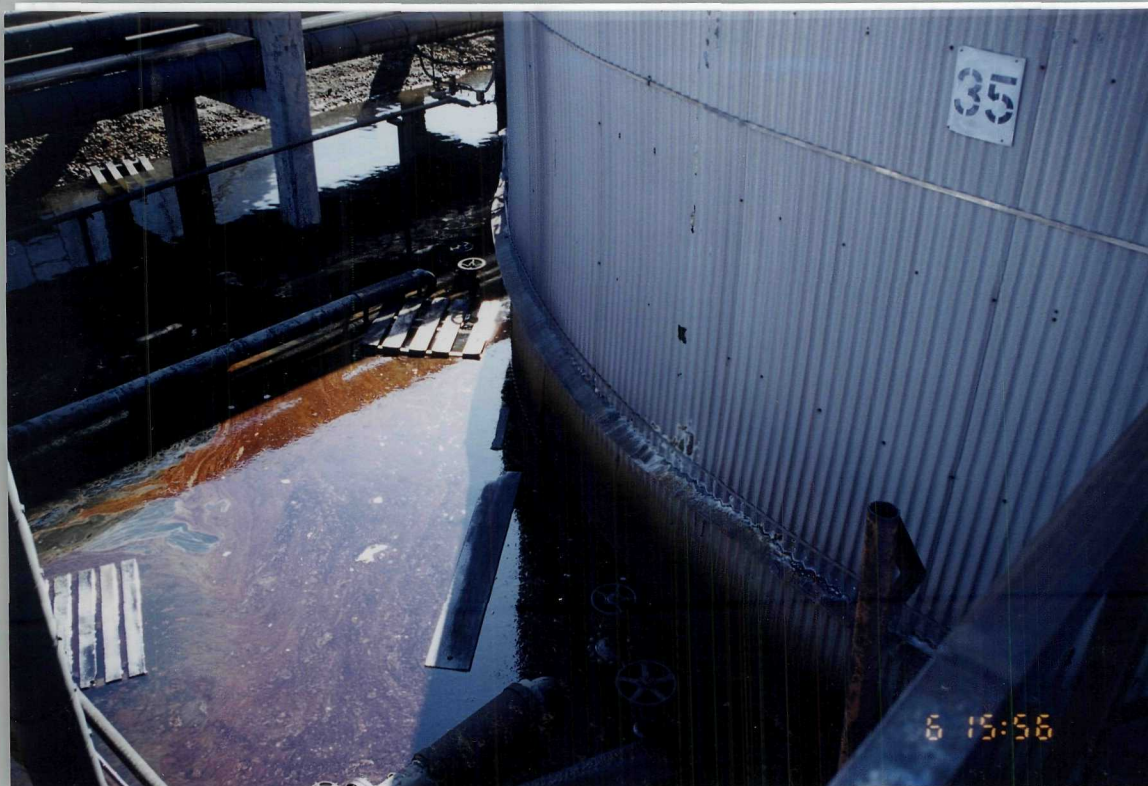
TIME: 1554

LOCATION: Blue Island, IL

DIRECTION: West

PHOTOGRAPHER: S. Wenning

SUBJECT: Water accumulated in the containment area of Tank 35.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1556

LOCATION: Blue Island, IL

DIRECTION: Southwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Oil contamination on accumulated water in Tank 35 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1559

LOCATION: Blue Island, IL

DIRECTION: Southwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Oil contamination on accumulated water in Tank 35 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1559

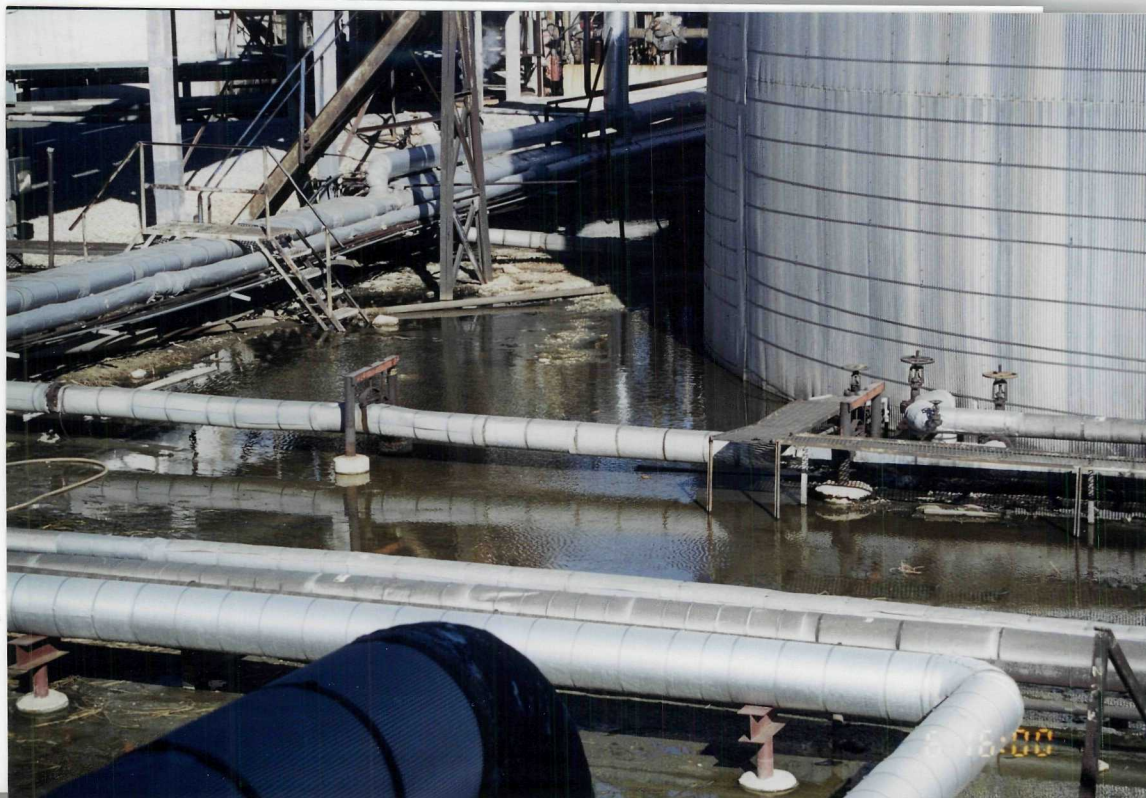
LOCATION: Blue Island, IL

DIRECTION: Northeast

PHOTOGRAPHER: S. Wenning

SUBJECT: Oil sheen on accumulated water in Tank 35 containment area.

2-2



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Water accumulation in Tank 36 containment area.

DATE: March 6, 1997

DIRECTION: Northwest

TIME: 1600

PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Hole in the outer insulation of Tank 35.

DATE: March 6, 1997

DIRECTION: South

TIME: 1602

PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1606

LOCATION: Blue Island, IL

DIRECTION: Southeast

PHOTOGRAPHER: S. Wenning

SUBJECT: Oil accumulation in Tank 17 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1606

LOCATION: Blue Island, IL

DIRECTION: South

PHOTOGRAPHER: S. Wenning

SUBJECT: Oil contamination in Tank 18 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1609

LOCATION: Blue Island, IL

DIRECTION: Southwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Piping in Tank 17 containment area.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1610

LOCATION: Blue Island, IL

DIRECTION: North

PHOTOGRAPHER: S. Wenning

SUBJECT: Overfill of Tank 16.



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Skid tanks located in Main refinery area.

DATE: March 6, 1997
DIRECTION: West

TIME: 1617
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Drums stored in drum storage warehouse.

DATE: March 6, 1997
DIRECTION: Southwest

TIME: 1702
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1703

LOCATION: Blue Island, IL

DIRECTION: Southwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Drums located outside drum storage warehouse.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1712

LOCATION: Blue Island, IL

DIRECTION: Southwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Rusted can being used as a pipe support at Tank 59.



SITE: Clark Oil Refinery

DATE: March 6, 1997

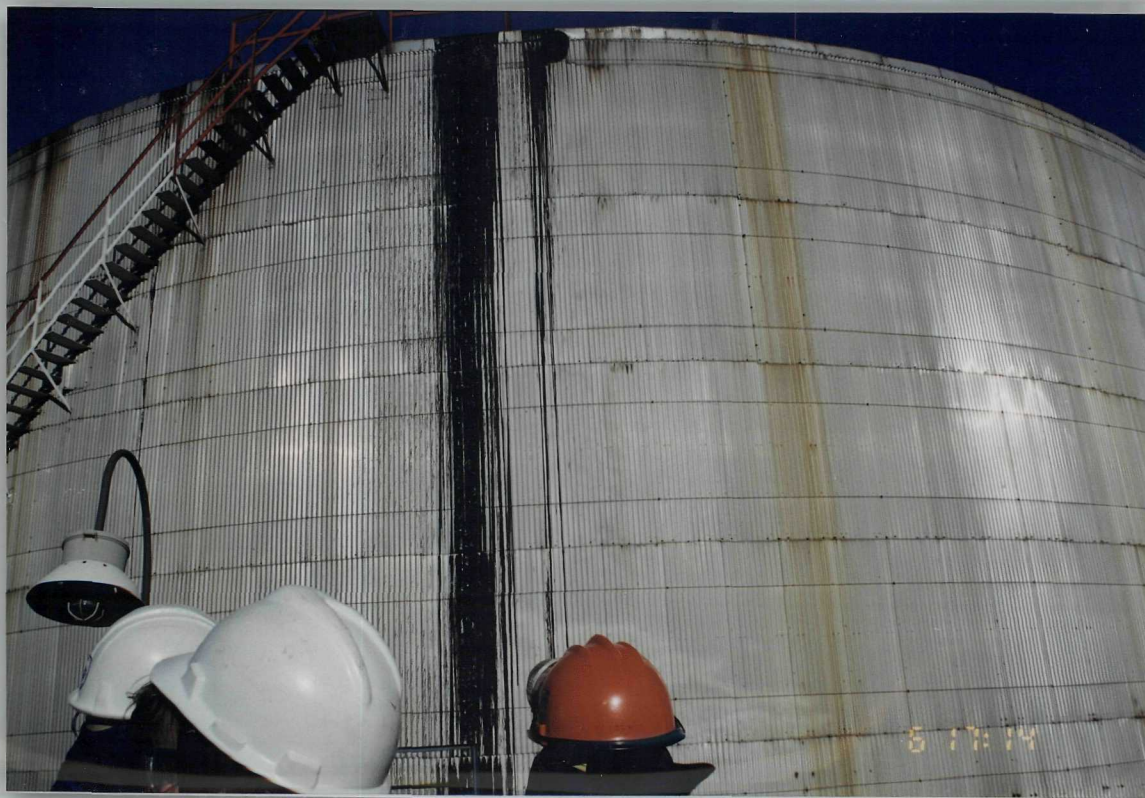
TIME: 1713

LOCATION: Blue Island, IL

DIRECTION: Southwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Cinder block being used as a pipe support at Tank 59.



SITE: Clark Oil Refinery

DATE: March 6, 1997

TIME: 1714

LOCATION: Blue Island, IL

DIRECTION: Northwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Overfill on side of Tank 51.



SITE: Clark Oil Refinery

DATE: March 6, 1997

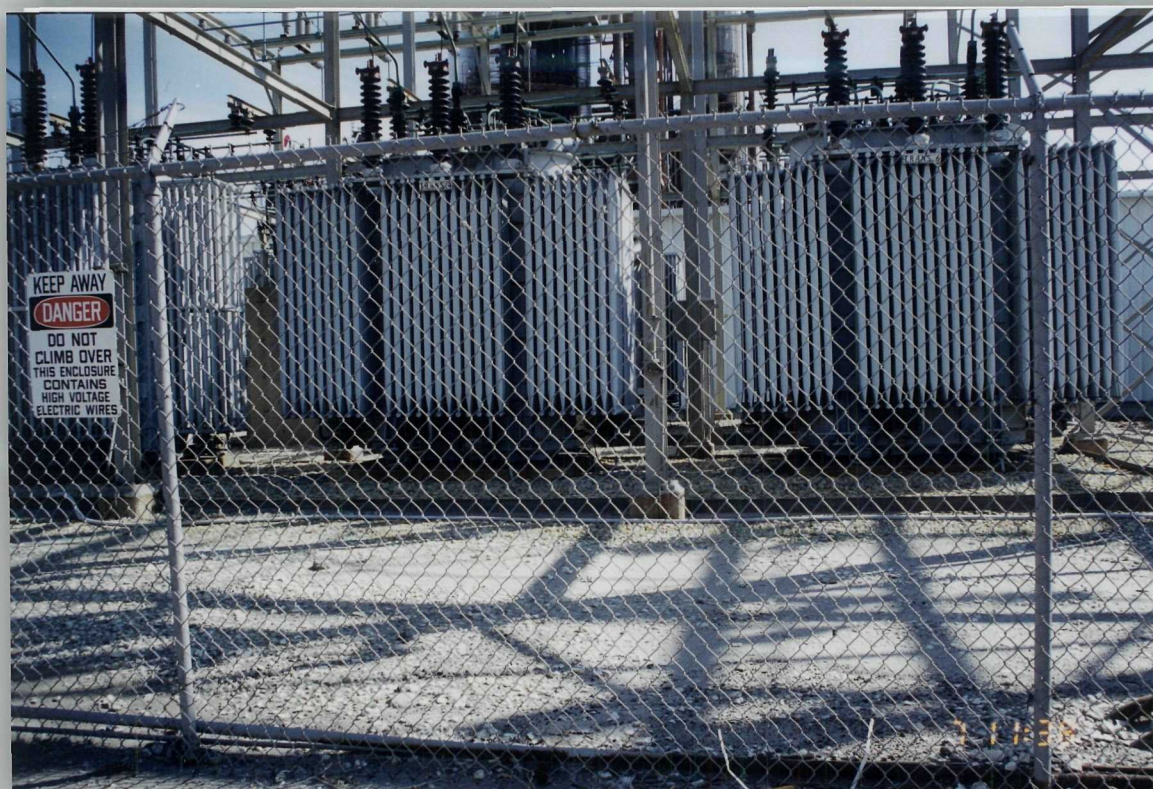
TIME: 1714

LOCATION: Blue Island, IL

DIRECTION: Northwest

PHOTOGRAPHER: S. Wenning

SUBJECT: Oil in Tank 51 containment area.



SITE: Clark Oil Refinery

DATE: March 7, 1997

TIME: 1138

LOCATION: Blue Island, IL

DIRECTION: South

PHOTOGRAPHER: S. Wenning

SUBJECT: Transformer area located adjacent to Main Refinery gate.



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Transformer area located adjacent to Main Refinery gate.

DATE: March 7, 1997
DIRECTION: South

TIME: 1139
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Drums located in Main Refinery area.

DATE: March 7, 1997
DIRECTION: North

TIME: 1143
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Storm sewer located in Main Refinery area.

DATE: March 7, 1997
DIRECTION: West

TIME: 1144
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Drainage ditch located adjacent to railcar loading rack.

DATE: March 7, 1997
DIRECTION: Northeast

TIME: 1149
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Railcar loading rack area.

DATE: March 7, 1997
DIRECTION: Northeast

TIME: 1149
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Transformers located adjacent to the railcar loading rack.

DATE: March 7, 1997
DIRECTION: North

TIME: 1153
PHOTOGRAPHER: S. Wenning

C-11M1 4-2564
 4" x 6" P14M13



SITE: Clark Oil Refinery **DATE:** March 7, 1997 **TIME:** 1157
LOCATION: Blue Island, IL **DIRECTION:** South **PHOTOGRAPHER:** S. Wenning
SUBJECT: Transformer area located across from main office building.



SITE: Clark Oil Refinery **DATE:** March 7, 1997 **TIME:** 1157
LOCATION: Blue Island, IL **DIRECTION:** South **PHOTOGRAPHER:** S. Wenning
SUBJECT: Transformer area located across from main office building



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Transformers located in process area.

DATE: March 7, 1997
DIRECTION: North

TIME: 1200
PHOTOGRAPHER: S. Wenning



SITE: Clark Oil Refinery
LOCATION: Blue Island, IL
SUBJECT: Transformers located in the East end of the Main Refinery area.

DATE: March 7, 1997
DIRECTION: North

TIME: 1211
PHOTOGRAPHER: S. Wenning

Clark Oil Refinery SPCC-Related questions:

1. Drum and portable oil storage is not thoroughly addressed in the SPCC plan.
2. In plan it is stated "Clark will investigate secondary containment modifications to provide secondary containment..." (p. 2-22) modifications will be implemented. What are the modifications? When will they be implemented?
3. The plan states that railcar containment area drains to six foot sewer and sewer covers are used to block storm sewer drains.
 - When are storm sewer covers used?
 - Why does containment drain directly towards storm sewer?
4. In spill history - the spill that occurred 8/11/94. In "Changes implemented..." section it states a consultant was hired to evaluate storm water system.
 - What were the recommendations of the consultant?
 - Were any measures implemented?
 - Would like a copy of the report.
5. We need records (after '95) of:
 - Secondary containment drainage
 - Liquid level sensors testing
 - Tank integrity testing
6. Why is plan dated 1997, but certification and approval are from 1994?
7. In spill history "Changes implemented to prevent recurrence" section, it states several times that the cause for the oil getting into the storm sewer was investigated, but it does not state anything was implemented to prevent recurrence.
 - Was anything implemented to keep oil from being discharged into the storm sewer system?
 - Need spill history for previous 12 months.
8. In the main truck-loading area it states trenches discharge to a sump which is then vacuumed out.
 - What is the capacity of the sump?
9. In the railcar loading area:
 - What is the capacity of the process drains?
 - What is the capacity of the storm sewers?
10. What is the size of the largest tanker truck at the site?
11. The secondary containment for T-55 and T-56 is inadequate. Why is stormwater pumped into these dike for storage?
12. The SPCC plan states that Junction Box 38 is a stormwater catch basin and sump from which storm water is pumped to Tank 59.
 - What is the maximum stormwater flowrate that this system can handle? Provide calculations.
 - List all of the sewers, drains, sumps, and secondary containment that drains to Junction Box 38.

13. The SPCC plan states that spills of oil from transformers and substations could flow to storm sewers.
- What are the containment measures implemented to contain spilled oil?

14. The SPCC plan must include diagrams indicating locations of storm sewers, process sewers, and all drains and sumps.

ATTACHMENT A

VIOLATIONS OF THE SPCC REGULATIONS FOUND DURING INSPECTION

The following violations of 40 C.F.R. 112 (the SPCC regulations) were discovered when your facility was inspected for compliance:

- ☒ Failure to Implement SPCC Plan (40 C.F.R. § 112.3(a)).
- ☐ Failure to Have Plan Certified by a Registered Professional Engineer (40 C.F.R. § 112.3(d)).
- ☐ Failure to Make SPCC Plan Available During Inspection (40 C.F.R. § 112.3(e)).
- ☐ Failure to Maintain SPCC Plan at the Facility (40 C.F.R. § 112.3(e)).
- ☐ Failure to Amend SPCC Plan (40 C.F.R. § 112.5).
- ☐ Failure to Review SPCC Plan at least Every Three Years (40 C.F.R. § 112.5(b)).
- ☒ Inadequate SPCC Plan (40 C.F.R. § 112.7).

ATTACHMENT B

SPECIFIC INFORMATION WHICH FACILITY MUST SUBMIT FOR EACH
VIOLATION IDENTIFIED IN ATTACHMENT A

- **For Failure to Implement the Facility's SPCC Plan:** A statement certifying that the provisions listed below have been implemented, provided that your facility has implemented; or, if your facility has not implemented these provisions, submit a construction schedule and interim preventive measures, signed by an authorized official from your facility.
- **For Inadequate SPCC Plan:** An adequate SPCC Plan, certified by a Registered Professional Engineer, approved by management at a level with authority to commit the necessary resources, and photographic evidence that your SPCC Plan has been fully implemented along with a statement from an authorized representative of your facility identifying and authenticating the photographs and certifying the date on which the facility fully implemented its SPCC Plan. If your facility is unable to provide an adequate SPCC Plan within the required time period, then your facility should submit, within thirty days of receipt of this letter, a detailed schedule which indicates when the facility's SPCC Plan will be complete and when implementation will occur. Within the timeframe set forth in that schedule, your facility will then submit the above-requested information. Please respond to/address the specific deficiencies listed below:

40 CFR 112.7 - Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasure Plan

Failure to provide complete discussion and implementation schedule of items to be installed.

Plan states "Improvements discussed in the Plan...will be implemented within one year of Refinery management's approval of plan." Management approval is dated 9-19-94, but most of the improvements had not been implemented as of 3-6-97. Please update implementation schedule.

Failure to follow the sequence of §112.7.

- (c) **Failure to provide adequate secondary containment and/or diversionary structures or equipment if practicable; including sorbent materials.**

Inadequate tank containment areas are identified in SPCC plan. Modifications are suggested but no implementation schedule is given. Please address inadequate dike capacities. Also, please include containment and/or diversionary structures for the drum storage area and the transformers. Please address the practice of pumping water into already inadequate secondary containment areas.

(e) (1) Failure to provide complete discussion and/or implement requirements pertaining to Facility Drainage.

Failure to provide other means of adequate drainage systems.

Please address the problems with facility drainage that occur during rainfall events including the overloading of Junction Box 38.

(e) (2) Failure to provide complete discussions and/or implement requirements pertaining to Bulk Storage Tanks

(ii) Failure to provide secondary containment for the largest single tank plus an allowance for precipitation.

Please address inadequate dike capacities identified in plan.

(vii) Failure to control internal heating coil leakage by:

(A) Monitoring the steam return or exhaust lines for oil or passing the steam lines through a separation system.

(B) Installing external heating system.

Please address controlling internal heating coil leakage.

(x) Failure to promptly correct visual oil leaks from tanks and related equipment.

Practice not implemented. Oil leaks observed during inspection were not promptly corrected.

(xi) Failure to properly locate portable or mobile oil storage tanks to prevent oil from reaching navigable waters.

Portable tanks located near storm sewer that discharges directly to navigable waterway. No secondary containment or diversionary structures implemented. Please address lack of containment or diversionary structures. Also discuss the lack of secondary containment and/or diversionary structures for the drum storage area.

(e) (3) Failure to provide complete discussions and/or implement requirements pertaining to Facility Transfer Operations.

(iii) Failure to provide pipe supports which are designed to minimize abrasion and corrosion and allow for expansion and contraction.

Pipe supports observed at the facility included railroad ties, cinder blocks and rusted cans. Please address inadequate pipe supports.

(v) Failure to warn large vehicles verbally or by appropriate signs to be cautious of aboveground piping.

Practice not implemented. No warning signs were observed at either truck loading rack area.

(e) (4) Failure to provide complete discussions and/or implement requirements pertaining to Facility Tank Truck Loading/Unloading Rack.

- (ii) Failure to provide a quick drainage system with a containment volume greater than the largest compartment of any tank car or truck where drainage does not flow into a catchment basin or a treatment facility.

Please state the capacity of the trench drains at the truck loading rack areas.

- (e) (8) **Failure to include written procedures for required inspection and records of same inspections in the SPCC Plan for a period of three years.**

Please include at least six (6) completed inspection records in the SPCC plan.